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### Specification

10 1. Title of the invention

Solar battery module

2. Claim

A solar battery module comprising a plurality of solar battery cells sealed  
15 in a transparent resin, wherein spacers are disposed between the cells.

3. Detailed description of the invention

(Field of industrial application)

The present invention relates to a solar battery module for power  
20 generation comprising a plurality of solar battery cells sealed in a  
transparent resin.

(Prior art)

In general, the solar battery module for power generation is made in such  
a manner that a commonly-called matrix comprising a plurality of solar  
25 battery cells electrically connected in series, in parallel, or in series-parallel

is formed and then the matrix is sealed in a transparent resin to withstand a long-term use in severe natural environment. The trend of this solar battery module is prevailingly toward cost-cutting and high-power generation and accordingly the number of solar battery cells incorporated in  
5 a single module is also being increased.

FIG. 2 is a sectional view showing a general structure of a conventional solar battery module. In the drawing, a matrix comprising a plurality of solar battery cells 1 arranged along to a surface of a glass plate 3 to be substantially in the plane and connected in series or in series-parallel is  
10 formed. Then, a transparent thermoplastic resin 2, e.g. EVA (ethylene-vinyl acetate copolymer) or PVB (polyvinyl butyral), is filled in, followed by pressure being applied thereto while heat being applied thereto, to form the solar battery module.

(Problems to be solved by the invention)

15 The conventional solar battery module described above has the drawback that in the process of the application of pressure to a thermoplastic resin or in the process of the curing of a transparent potting resin, the solar battery cells may be displaced to cause overlap or contact of adjoining solar battery cells 1, as shown in the sectional view of FIG. 3 for example, thus causing  
20 reduction in manufacturing yield.

(Means for solving the problems)

In the light of the drawback mentioned above, according to the present invention, spacers are disposed between the solar battery cells to prevent displacement of the solar battery cells when the plurality of solar battery  
25 cells are arranged to be substantially in the plane and connected in series or

in series-parallel to form a matrix and then the matrix is sealed by the resin.

(Example)

Next, the present invention is described by reference to an example.

FIG. 1 is a sectional view showing a general outline of one embodiment of  
5 the present invention. In FIG. 1, a glass plate 3 is disposed on a  
photo-receiving surface side, and spacers 4 made of transparent material  
having elasticity, e.g. silicon rubber, are disposed between the solar battery  
cells 1, 1, ... arranged along a surface of the glass plate, followed by being  
sealed by a transparent resin 2.

10 (Effect of the invention)

In the solar battery module of the present invention, since the spacers  
are disposed between the cells to put a limit on the displacement of the cells  
caused in the transparent resin sealing operation, overlap or contact of  
adjoining solar battery cells with each other caused by the displacement of  
15 the cells in the resin sealing operation is prevented, thus providing the effect  
of improved manufacturing yields.

#### 4. Brief description of the drawing

FIG. 1 is a sectional view showing a general outline of one example of the  
20 present invention. FIG. 2 is a sectional view of a conventional solar battery  
module. FIG. 3 is a sectional view for explaining the displacement of a  
solar battery element.

1: Solar battery cell,

2: Sealing resin,

3 Glass plate,

4: Spacer.